

1
 ACTGCAACCCCTAATCAGAGCCCAA met ala gln trp glu met leu gln
 ATG GCG CAG TGG GAA ATG CTG CAG
 10 20
 asn leu asp ser pro phe gln asp gln leu his gln leu tyr ser
 AAT CTT GAC AGC CCC TTT CAG GAT CAG CTG CAC CAG CTT TAC TCG
 30
 his ser leu leu pro val asp ile arg gln tyr leu ala val trp
 CAC AGC CTC CTG CCT GTG GAC ATT CGA CAG TAC TTG GCT GTC TGG
 40 50
 ile glu asp gln asn trp gln glu ala ala leu gly ser asp asp
 ATT GAA GAC CAG AAC TGG CAG GAA GCT GCA CTT GGG AGT GAT GAT
 60
 ser lys ala thr met leu phe phe his phe leu asp gln leu asn
 TCC AAG GCT ACC ATG CTA TTC TTC CAC TTC TTG GAT CAG CTG AAC
 70 80
 tyr glu cys gly arg cys ser gln asp pro glu ser leu leu leu
 TAT GAG TGT GGC CGT TGC AGC CAG GAC CCA GAG TCC TTG TTG CTG
 90
 gln his asn leu arg lys phe cys arg asp ile gln pro phe ser
 CAG CAC AAT TTG CGG AAA TTC TGC CGG GAC ATT CAG CCC TTT TCC
 100 110
 gln asp pro thr gln leu ala glu met ile phe asn leu leu leu
 CAG GAT CCT ACC CAG TTG GCT GAG ATG ATC TTT AAC CTC CTT CTG
 120
 glu glu lys arg ile leu ile gln ala gln arg ala gln leu glu
 GAA GAA AAA AGA ATT TTG ATC CAG GCT CAG AGG GCC CAA TTG GAA
 130 140
 gln gly glu pro val leu glu thr pro val glu ser gln gln his
 CAA GGA GAG CCA GTT CTC GAA ACA CCT GTG GAG AGC CAG CAA CAT
 150
 glu ile glu ser arg ile leu asp leu arg ala met met glu lys
 GAG ATT GAA TCC CGG ATC CTG GAT TTA AGG GCT ATG ATG GAG AAG
 160 170
 leu val lys ser ile ser gln leu lys asp gln gln asp val phe
 CTG GTA AAA TCC ATC AGC CAA CTG AAA GAC CAG CAG GAT GTC TTC
 180

Figure 1A

cys phe arg tyr lys ile gln ala lys gly lys thr pro ser leu
 TGC TTC CGA TAT AAG ATC CAG GCC AAA GGG AAG ACA CCC TCT CTG
 190 200
 asp pro his gln thr lys glu gln lys ile leu gln glu thr leu
 GAC CCC CAT CAG ACC AAA GAG CAG AAG ATT CTG CAG GAA ACT CTC
 210
 asn glu leu asp lys arg arg lys glu val leu asp ala ser lys
 AAT GAA CTG GAC AAA AGG AGA AAG GAG GTG CTG GAT GCC TCC AAA
 220 230
 ala leu leu gly arg leu thr thr leu ile glu leu leu leu pro
 GCA CTG CTA GGC CGA TTA ACT ACC CTA ATC GAG CTA CTG CTG CCA
 240
 lys leu glu glu trp lys ala gln gln gln lys ala cys ile arg
 AAG TTG GAG GAG TGG AAG GCC CAG CAG CAA AAA GCC TGC ATC AGA
 250 260
 ala pro ile asp his gly leu glu gln leu glu thr trp phe thr
 GCT CCC ATT GAC CAC GGG TTG GAA CAG CTG GAG ACA TGG TTC ACA
 270
 ala gly ala lys leu leu phe his leu arg gln leu leu lys glu
 GCT GGA GCA AAG CTG TTG TTT CAC CTG AGG CAG CTG CTG AAG GAG
 280 290
 leu lys gly leu ser cys leu val ser tyr gln asp asp pro leu
 CTG AAG GGA CTG AGT TGC CTG GTT AGC TAT CAG GAT GAC CCT CTG
 300
 thr lys gly val asp leu arg asn ala gln val thr glu leu leu
 ACC AAA GGG GTG GAC CTA CGC AAC GCC CAG GTC ACA GAG TTG CTA
 310 320
 gln arg leu leu his arg ala phe val val glu thr gln pro cys
 CAG CGT CTG CTC CAC AGA GCC TTT GTG GTA GAA ACC CAG CCC TGC
 330
 met pro gln thr pro his arg pro leu ile leu lys thr gly ser
 ATG CCC CAA ACT CCC CAT CGA CCC CTC ATC CTC AAG ACT GGC AGC
 340 350
 lys phe thr val arg thr arg leu leu val arg leu gln glu gly
 AAG TTC ACC GTC CGA ACA AGG CTG CTG GTG AGA CTC CAG GAA GGC
 360
 asn glu ser leu thr val glu val ser ile asp arg asn pro pro
 AAT GAG TCA CTG ACT GTG GAA GTC TCC ATT GAC AGG AAT CCT CCT
 370 380
 gln leu gln gly phe arg lys phe asn ile leu thr ser asn gln
 CAA TTA CAA GGC TTC CGG AAG TTC AAC ATT CTG ACT TCA AAC CAG
 390
 lys thr leu thr pro glu lys gly gln ser gln gly leu ile trp

Figure 1B

AAA ACT TTG ACC CCC GAG AAG GGG CAG AGT CAG GGT TTG ATT TGG

400 410
asp phe gly tyr leu thr leu val glu gln arg ser gly gly ser
GAC TTT GGT TAC CTG ACT CTG GTG GAG CAA CGT TCA GGT GGT TCA

420
gly lys gly ser asn lys gly pro leu gly val thr glu glu leu
GGA AAG GGC AGC AAT AAG GGG CCA CTA GGT GTG ACA GAG GAA CTG

430 440
his ile ile ser phe thr val lys tyr thr tyr gln gly leu lys
CAC ATC ATC AGC TTC ACG GTC AAA TAT ACC TAC CAG GGT CTG AAG

450
gln glu leu lys thr asp thr leu pro val val ile ile ser asn
CAG GAG CTG AAA ACG GAC ACC CTC CCT GTG GTG ATT ATT TCC AAC

460 470
met asn gln leu ser ile ala trp ala ser val leu trp phe asn
ATG AAC CAG CTC TCA ATT GCC TGG GCT TCA GTT CTC TGG TTC AAT

480
leu leu ser pro asn leu gln asn gln gln phe phe ser asn pro
TTG CTC AGC CCA AAC CTT CAG AAC CAG CAG TTC TTC TCC AAC CCC

490 500
pro lys ala pro trp ser leu leu gly pro ala leu ser trp gln
CCC AAG GCC CCC TGG AGC TTG CTG GGC CCT GCT CTC AGT TGG CAG

510
phe ser ser tyr val gly arg gly leu asn ser asp gln leu ser
TTC TCC TCC TAT GTT GGC CGA GGC CTC AAC TCA GAC CAG CTG AGC

520 530
met leu arg asn lys leu phe gly gln asn cys arg thr glu asp
ATG CTG AGA AAC AAG CTG TTC GGG CAG AAC TGT AGG ACT GAG GAT

540
pro leu leu ser trp ala asp phe thr lys arg glu ser pro pro
CCA TTA TTG TCC TGG GCT GAC TTC ACT AAG CGA GAG AGC CCT CCT

550 560
gly lys leu pro phe trp thr trp leu asp lys ile leu glu leu
GGC AAG TTA CCA TTC TGG ACA TGG CTG GAC AAA ATT CTG GAG TTG

570
val his asp his leu lys asp leu trp asn asp gly arg ile met
GTA CAT GAC CAC CTG AAG GAT CTC TGG AAT GAT GGA CGC ATC ATG

580 590
gly phe val ser arg ser gln glu arg arg leu leu lys lys thr
GGC TTT GTG AGT CGG AGC CAG GAG CGC CGG CTG CTG AAG AAG ACC

600
met ser gly thr phe leu leu arg phe ser glu ser ser glu gly
ATG TCT GGC ACC TTT CTA CTG CGC TTC AGT GAA TCG TCA GAA GGG

Figure 1C

610 620
 gly ile thr cys ser trp val glu his gln asp asp asp lys val
 GGC ATT ACC TGC TCC TGG GTG GAG CAC CAG GAT GAT GAC AAG GTG

630
 leu ile tyr ser val gln pro tyr thr lys glu val leu gln ser
 CTC ATC TAC TCT GTG CAA CCG TAC ACG AAG GAG GTG CTG CAG TCA

640 650
 leu pro leu thr glu ile ile arg his tyr gln leu leu thr glu
 CTC CCG CTG ACT GAA ATC ATC CGC CAT TAC CAG TTG CTC ACT GAG

660
 glu asn ile pro glu asn pro leu arg phe leu tyr pro arg ile
 GAG AAT ATA CCT GAA AAC CCA CTG CGC TTC CTC TAT CCC CGA ATC

670 680
 pro arg asp glu ala phe gly cys tyr tyr gln glu lys val asn
 CCC CGG GAT GAA GCT TTT GGG TGC TAC TAC CAG GAG AAA GTT AAT

690
 leu gln glu arg arg lys tyr leu lys his arg leu ile val val
 CTC CAG GAA CGG AGG AAA TAC CTG AAA CAC AGG CTC ATT GTG GTC

700 710
 ser asn arg gln val asp glu leu gln gln pro leu glu leu lys
 TCT AAT AGA CAG GTG GAT GAA CTG CAA CAA CCG CTG GAG CTT AAG

720
 pro glu pro glu leu glu ser leu glu leu glu leu gly leu val
 CCA GAG CCA GAG CTG GAG TCA TTA GAG CTG GAA CTA GGG CTG GTG

730 740
 pro glu pro glu leu ser leu asp leu glu pro leu leu lys ala
 CCA GAG CCA GAG CTC AGC CTG GAC TTA GAG CCA CTG CTG AAG GCA

750
 gly leu asp leu gly pro glu leu glu ser val leu glu ser thr
 GGG CTG GAT CTG GGG CCA GAG CTA GAG TCT GTG CTG GAG TCC ACT

760 770
 leu glu pro val ile glu pro thr leu cys met val ser gln thr
 CTG GAG CCT GTG ATA GAG CCC ACA CTA TGC ATG GTA TCA CAA ACA

780
 val pro glu pro asp gln gly pro val ser gln pro val pro glu
 GTG CCA GAG CCA GAC CAA GGA CCT GTA TCA CAG CCA GTG CCA GAG

790 800
 pro asp leu pro cys asp leu arg his leu asn thr glu pro met
 CCA GAT TTG CCC TGT GAT CTG AGA CAT TTG AAC ACT GAG CCA ATG

810
 glu ile phe arg asn cys val lys ile glu glu ile met pro asn
 GAA ATC TTC AGA AAC TGT GTA AAG ATT GAA GAA ATC ATG CCG AAT

Figure 1D

020 030
gly asp pro leu leu ala gly gln asn thr val asp glu val tyr
GGT GAC CCA CTG TTG GCT GGC CAG AAC ACC GTG GAT GAG GTT TAC

040
val ser arg pro ser his phe tyr thr asp gly pro-leu met pro
GTC TCC CGC CCC AGC CAC TTC TAC ACT GAT GGA CCC TTG ATG CCT

050 051
ser asp phe AM
TCT GAC TTC TAG GAACACATTTCTCTGTTCTTTTCATATCTCTTTGCCCTTCCTA
CTCCTCATAGCATGATATTGTTCTCCAAGGATGGGAATCAGGCATGTGTCCCTTCCAAGC
TGTGTTAACTGTTCAAACCTCAGGCCTGTGTGACTCCATTGGGGTGAGAGGTGAAGCATA
ACATGGGTACAGAGGGGACAAACAAATGAATCAGAACAGATGCTGAGCCATAGGTCTAAATA
GGATCCTGGAGGCTGCCTGCTGTGCTGGGAGGTATAGGGGTCTGGGGGCAGGCCAGGGC
AGTTGACAGGTACTTGGAGGGCTCAGGGCAGTGGCTTCTTTCCAGTATGGAAGGATTTCA
ACATTTTAAATAGTTGGTTAGGCTAAACTGGTGCATACTGGCATTGGCCTTGGTGGGGAGC
ACAGACACAGGATAGGACTCCATTTCTTTCTTCCATTCTTCATGTCTAGGATAACTTGC
TTTCTTCTTTTCTTTTACTCCTGGCTCAAGCCCTGAATTTCTTCTTTTCTGCAUGGGTTG
AGAGCTTTCTGCCTTAGCCTACCATGTGAAACTCTACCCTGAAAGAAAGGGATGGATAGGA
AGTAGACCTCTTTTTCTTACCAGTCTCCTCCCCTACTCTGCCCCCTAAGCTGGCTGTACC
TGTTCTCTCCCCCATAAAATGATCCTGCCAATCTAAAAAAAAA

Figure 1E

ATTAAACCTCTCGCCGAGCCCCCTCCGCAGACTCTGCCCGGAAAGTTTCATTTGCTGTATGCCATCCTCGA

GAGCTGTCTAGGTTAACGTTTCGCACTCTGTGTATATAACCTCGACAGTCTTGGCACCTAACGTGCTGTGCG

Met Ser Gln Trp
TAGCTGCTCCTTTGGTTGAATCCCCAGGCCCTTGTGGGGCACAAGGTGGCAGG ATG TCT CAG TGG

Tyr Glu Leu Gln Gln Leu Asp Ser Lys Phe Leu Glu Gln Val His Gln Leu Tyr
TAC GAA CTT CAG CAG CTT GAC TCA AAA TTC CTG GAG CAG GTT CAC CAG CTT TAT

Asp Asp Ser Phe Pro Met Glu Ile Arg Gln Tyr Leu Ala Gln Trp Leu Glu Lys
GAT GAC AGT TTT CCC ATG GAA ATC AGA CAG TAC CTG GCA CAG TGG TTA GAA AAG

Gln Asp Trp Glu His Ala Ala Asn Asp Val Ser Phe Ala Thr Ile Arg Phe His
CAA GAC TGG GAG CAC GCT GCC AAT GAT GTT TCA TTT GCC ACC ATC CGT TTT CAT

Asp Leu Leu Ser Gln Leu Asp Asp Gln Tyr Ser Arg Phe Ser Leu Glu Asn Asn
GAC CTC CTG TCA CAG CTG GAT GAT CAA TAT AGT CGC TTT TCT TTG GAG AAT AAC

Phe Leu Leu Gln His Asn Ile Arg Lys Ser Lys Arg Asn Leu Gln Asp Asn Phe
TTC TTG CTA CAG CAT AAC ATA AGG AAA AGC AAG CGT AAT CTT CAG GAT AAT TTT

Gln Glu Asp Pro Ile Gln Met Ser Met Ile Ile Tyr Ser Cys Leu Lys Glu Glu
CAG GAA GAC CCA ATC CAG ATG TCT ATG ATC ATT TAC AGC TGT CTG AAG GAA GAA

Arg Lys Ile Leu Glu Asn Ala Gln Arg Phe Asn Gln Ala Gln Ser Gly Asn Ile
AGG AAA ATT CTG GAA AAC GCC CAG AGA TTT AAT CAG GCT CAG TCG GGG AAT ATT

Gln Ser Thr Val Met Leu Asp Lys Gln Lys Glu Leu Asp Ser Lys Val Arg Asn
CAG AGC ACA GTG ATG TTA GAC AAA CAG AAA GAG CTT GAC AGT AAA GTC AGA AAT

Val Lys Asp Lys Val Met Cys Ile Glu His Glu Ile Lys Ser Leu Glu Asp Leu
GTG AAG GAC AAG GTT ATG TGT ATA CAG CAT GAA ATC AAG AGC CTG GAA GAT TTA

Gln Asp Glu Tyr Asp Phe Lys Cys Lys Thr Leu Gln Asn Arg Glu His Glu Thr
CAA GAT GAA TAT GAC TTC AAA TGC AAA ACC TTG CAG AAC AGA GAA CAC GAG ACC

Asn Gly Val Ala Lys Ser Asp Gln Lys Gln Glu Gln Leu Leu Leu Lys Lys Met
AAT GGT GTG GCA AAG AGT GAT CAG AAA CAA GAA CAG CTG TTA CTC AAG AAG ATG

Tyr Leu Met Leu Asp Asn Lys Arg Lys Glu Val Val His Lys Ile Ile Glu Leu
TAT TTA ATG CTT GAC AAT AAG AGA AAG GAA GTA GTT CAC AAA ATA ATA GAG TTG

Leu Asn Val Thr Glu Leu Thr Gln Asn Ala Leu Ile Asn Asp Glu Leu Val Glu
CTG AAT GTC ACT GAA CTT ACC CAG AAT GCC CTG ATT AAT GAT GAA CTA GTG GAG

Trp Lys Arg Arg Gln Gln Ser Ala Cys Ile Gly Gly Pro Pro Asn Ala Cys Leu
TGG AAG CGG AGA CAG CAG AGC GCC TGT ATT GGG GGG CCG CCC AAT GCT TGC TTG

Asp Gln Leu Gln Asn Trp Phe Thr Ile Val Ala Glu Ser Leu Gln Gln Val Arg
GAT CAG CTG CAG AAC TGG TTC ACT ATA GTT GCG GAG AGT CTG CAG CAA GTT CCG

Gln Gln Leu Lys Lys Leu Glu Glu Leu Glu Gln Lys Tyr Thr Tyr Glu His Asp
CAG CAG CTT AAA AAG TTG GAG GAA TTG GAA CAG AAA TAC ACC TAC GAA CAT GAC

Pro Ile Thr Lys Asn Lys Gln Val Leu Trp Asp Arg Thr Phe Ser Leu Phe Gln
CCT ATC ACA AAA AAC AAA CAA GTG TTA TGG GAC CGC ACC TTC AGT CTT TTC CAG

Figure 2A

Gln Leu Ile Gln Ser Ser Phe Val Val Glu Arg Gln Pro Cys Met Pro Thr His
 CAG CTC ATT CAG AGC TCG TTT GTG GTG GAA AGA CAG CCC TGC ATG CCA ACG CAC
 Pro Gln Arg Pro Leu Val Leu Lys Thr Gly Val Gln Phe Thr Val Lys Leu Arg
 CCT CAG AGG CCG CTG GTC TTG AAG ACA GGG GTC CAG TTC ACT GTG AAG TTG AGA
 Leu Leu Val Lys Leu Gln Glu Leu Asn Tyr Asn Leu Lys Val Lys Val Leu Phe
 CTG TTG GTG AAA TTG CAA GAG CTG AAT TAT AAT TTG AAA GTC AAA GTC TTA TTT
 Asp Lys Asp Val Asn Glu Arg Asn Thr Val Lys Gly Phe Arg Lys Phe Asn Ile
 GAT AAA GAT GTG AAT GAG AGA AAT ACA GTA AAA GGA TTT AGG AAG TTC AAC ATT
 Leu Gly Thr His Thr Lys Val Met Asn Met Glu Glu Ser Thr Asn Gly Ser Leu
 TTG GGC ACG CAC ACA AAA GTG ATG AAC ATG GAG GAG TCC ACC AAT GGC AGT CTG
 Ala Ala Glu Phe Arg His Leu Gln Leu Lys Glu Gln Lys Asn Ala Gly Thr Arg
 GCG GCT GAA TTT CGG CAC CTG CAA TTG AAA GAA CAG AAA AAT GCT GGC ACC AGA
 Thr Asn Glu Gly Pro Leu Ile Val Thr Glu Glu Leu His Ser Leu Ser Phe Glu
 ACG AAT GAG GGT CCT CTC ATC GTT ACT GAA GAG CTT CAC TCC CTT AGT TTT GAA
 Thr Gln Leu Cys Gln Pro Gly Leu Val Ile Asp Leu Glu Thr Thr Ser Leu Pro
 ACC CAA TTG TGC CAG CCT GGT TTG GTA ATT GAC CTC GAG ACG ACC TCT CTG CCC
 Val Val Val Ile Ser Asn Val Ser Gln Leu Pro Ser Gly Trp Ala Ser Ile Leu
 GTT GTG GTG ATC TCC AAC GTC AGC CAG CTC CCG AGC GGT TGG GCC TCC ATC CTT
 Trp Tyr Asn Met Leu Val Ala Glu Pro Arg Asn Leu Ser Phe Phe Leu Thr Pro
 TGG TAC AAC ATG CTG GTG GCG GAA CCC AGG AAT CTG TCC TTC TTC CTG ACT CCA
 Pro Cys Ala Arg Trp Ala Gln Leu Ser Glu Val Leu Ser Trp Gln Phe Ser Ser
 CCA TGT GCA CGA TGG GCT CAG CTT TCA GAA GTG CTG AGT TGG CAG TTT TCT TCT
 Val Thr Lys Arg Gly Leu Asn Val Asp Gln Leu Asn Met Leu Gly Glu Lys Leu
 GTC ACC AAA AGA GGT CTC AAT GTG GAC CAG CTG AAC ATG TTG GGA GAG AAG CTT
 Leu Gly Pro Asn Ala Ser Pro Asp Gly Leu Ile Pro Trp Thr Arg Phe Cys Lys
 CTT GGT CCT AAC GCC AGC CCC GAT GGT CTC ATT CCG TGG ACG AGG TTT TGT AAG
 Glu Asn Ile Asn Asp Lys Asn Phe Pro Phe Trp Leu Trp Ile Glu Ser Ile Leu
 GAA AAT ATA AAT GAT AAA AAT TTT CCC TTC TGG CTT TGG ATT GAA AGC ATC CTA
 Glu Leu Ile Lys Lys His Leu Leu Pro Leu Trp Asn Asp Gly Cys Ile Met Gly
 GAA CTC ATT AAA AAA CAC CTG CTC CCT CTC TGG AAT GAT GGG TGC ATC ATG GGC
 Phe Ile Ser Lys Glu Arg Glu Arg Ala Leu Leu Lys Asp Gln Gln Pro Gly Thr
 TTC ATC AGC AAG GAG CGA GAG CGT GCC CTG TTG AAG GAC CAG CAG CCG GGG ACC
 Phe Leu Leu Arg Phe Ser Glu Ser Ser Arg Glu Gly Ala Ile Thr Phe Thr Trp
 TTC CTG CTG CGG TTC AGT GAG AGC TCC CGG GAA GGG GCC ATC ACA TTC ACA TGG
 Val Glu Arg Ser Gln Asn Gly Gly Glu Pro Asp Phe His Ala Val Glu Pro Tyr
 GTG GAG CGG TCC CAG AAC GGA GGC GAA CCT GAC TTC CAT GCG GTT GAA CCC TAC
 Thr Lys Lys Glu Leu Ser Ala Val Thr Phe Pro Asp Ile Ile Arg Asn Tyr Lys
 ACG AAG AAA GAA CTT TCT GCT GTT ACT TTC CCT GAC ATC ATT CGC AAT TAC AAA
 Val Met Ala Ala Glu Asn Ile Pro Glu Asn Pro Leu Lys Tyr Leu Tyr Pro Asn
 GTC ATG GCT GCT GAG AAT ATT CCT GAG AAT CCC CTG AAG TAT CTG TAT CCA AAT

Figure 2B

Ile Asp Lys Asp His Ala Phe Gly Lys Tyr Tyr Ser Arg Pro Lys Glu Ala Pro
 ATT GAC AAA GAC CAT GCC TTT GGA AAG TAT TAC TCC AGG CCA AAG GAA GCA CCA

 Glu Pro Met Glu Leu Asp Gly Pro Lys Gly Thr Gly Tyr Ile Lys Thr Glu Leu
 GAG CCA ATG GAA CTT GAT GGC CCT AAA GGA ACT GGA TAT ATC AAG ACT GAG TTG

 Ile Ser Val Ser Glu Val His Pro Ser Arg Leu Gln Thr Thr Asp Asn Leu Leu
 ATT TCT GTG TCT GAA GTT CAC CCT TCT AGA CTT CAG ACC ACA GAC AAC CTG CTC

 Pro Met Ser Pro Glu Glu Phe Asp Glu Val Ser Arg Ile Val Gly Ser Val Glu
 CCC ATG TCT CCT GAG GAG TTT GAC GAG GTG TCT CGG ATA GTG GGC TCT GTA GAA

 Phe Asp Ser Met Met Asn Thr Val
 TTC GAC AGT ATG ATG AAC ACA GTA TAGAGCATGAATTTTTTTCATCTTCTCTGGCGACAGTTT

 TCCTTCTCATCTGTGATTCCCTCCTGCTACTCTGTCTCCTTCACATCCTGTGTTTCTAGGGAATGAAAGAA

 AGGCCAGCAAATTCGCTGCAACCTGTTGATAGCAAGTGAATTTTTCTCTAACTCAGAAACATCAGTTACTC

 TGAAGGCATCATGCATCTTACTGAAGGTAAAATTGAAAGGCATTCTCTGAAGAGTGGGTTTCACAAGTGA

 AAAACATCCAGATACACCCAAAGTATCAGGACGAGAATGAGGGTCTTTGGGAAAGGAGAAGTTAAGCAAC

 ATCTAGCAAATGTTATGCATAAAGTCAGTGCCCACTGTTATAGGTTGTTGGATAAATCAGTGGTTATTTA

 GGGAACTGCTTGACGTAGGAACGGTAAATTTCTGTGGGAGAATTCTTACATGTTTTCTTTGCTTTAAGTGT

 AACTGGCAGTTTTCCATTGGTTTACCTGTGAAATAGTTCAAAGCCAAGTTTATATACAATTATATCAGTCC

 TCTTTCAAAGGTAGCCATCATGGATCTGGTAGGGGAAAATGTGTATTTTATTACATCTTTCACATTGGCT

 ATTTAAAGACAAAGACAAATTCTGTTTCTTGAGAAGAGAATATTAGCTTTACTGTTTGTATGGCTTAATG

 ACACTAGCTAATATCAATAGAAGGATGTACATTTCCAAATTCACAAGTTGTGTTTGATATCCAAAGCTGAA

 TACATTCTGCTTTCATCTTGGTCACATACAATTATTTTACAGTTCTCCAAGGGAGTTAGGCTATTCA

 ACCACTCATTCAAAGTTGAAATTAACCATAGATGTAGATAAACTCAGAAATTTAATTCATGTTTCTTAAA

 TGGGCTACTTTGTCTTTTTTGTATTAGGGTGGTATTTAGTCTATTAGCCACAAAATTGGGAAAGGAGTAG

 AAAAAGCAGTAACTGACAACCTGAATAATACACCAAGAGATAATATGAGAATCAGATCATTTCAAACTCAT

 TTCCTATGTAACCTGCATTGAGAACTGCATATGTTTCGCTGATATATGTGTTTTTTCACATTGCGAATGGTT

Figure 2C

CCATTCTCTCTCCTGTACTTTTTCCAGACACTTTTTGAGTGGATGATGTTTCGTGAAGTATACTGTATTT
TTACCTTTTTTCCTTCCTTATCACTGACACAAAAAGTAGATTAAGAGATGGGTTTGACAAGGTTCCTCCCTT
TTACATACTGCTGTCTATGTGGCTGTATCTTGTTTTCCACTACTGCTACCACAACATATTATCATGCAA
ATGCTGTATTCTTCTTTGGTGGAGATAAAGATTTCTTGAGTTTGTGTTTAAATTAAGCTAAAGTATCTG
TATTGCATTAAATATAATATCGACACAGTGCTTTCCGTGGCACTGCATACAATCTGAGGCCTCCTCTCTCA
GTTTTATATAGATGGCGAGAACCTAAGTTTCAGTTGATTTTACAATTGAAATGACTAAAAACAAAGAAG
ACAACATTAAAAACAATATTGTTTCTA

Figure 2D

ATTAAACCTCTCGCGAGCCCTCCGCAGACTCTGCGCCGAAAGTTTCATTTGCTGTATGCCATCCTCGA

GAGCTGTCTAGGTAAACGTTCCGACTCTGTGTATATAACCTCGACAGTCTTGGCACCTAACGTGCTGTGCG

Met Ser Gln Trp
TAGCTGCTCCTTTGGTTGAATCCCCAGGCCCTTGTGGGGCACAAGGTGGCAGG ATG TCT CAG TGG

Tyr Glu Leu Gln Gln Leu Asp Ser Lys Phe Leu Glu Gln Val His Gln Leu Tyr
TAC GAA CTT CAG CAG CTT GAC TCA AAA TTC CTG GAG CAG GTT CAC CAG CTT TAT

Asp Asp Ser Phe Pro Met Glu Ile Arg Gln Tyr Leu Ala Gln Trp Leu Glu Lys
GAT GAC AGT TTT CCC ATG GAA ATC AGA CAG TAC CTG GCA CAG TGG TTA GAA AAG

Gln Asp Trp Glu His Ala Ala Asn Asp Val Ser Phe Ala Thr Ile Arg Phe His
CAA GAC TGG GAG CAC GCT GCC AAT GAT GTT TCA TTT GCC ACC ATC CGT TTT CAT

Asp Leu Leu Ser Gln Leu Asp Asp Gln Tyr Ser Arg Phe Ser Leu Glu Asn Asn
GAC CTC CTG TCA CAG CTG GAT GAT CAA TAT AGT CGC TTT TCT TTG GAG AAT AAC

Phe Leu Leu Gln His Asn Ile Arg Lys Ser Lys Arg Asn Leu Gln Asp Asn Phe
TTC TTG CTA CAG CAT AAC ATA AGG AAA AGC AAG CGT AAT CTT CAG GAT AAT TTT

Gln Glu Asp Pro Ile Gln Met Ser Met Ile Ile Tyr Ser Cys Leu Lys Glu Glu
CAG GAA GAC CCA ATC CAG ATG TCT ATG ATC ATT TAC AGC TGT CTG AAG GAA GAA

Arg Lys Ile Leu Glu Asn Ala Gln Arg Phe Asn Gln Ala Gln Ser Gly Asn Ile
AGG AAA ATT CTG GAA AAC GCC CAG AGA TTT AAT CAG GCT CAG TCG GGG AAT ATT

Gln Ser Thr Val Met Leu Asp Lys Gln Lys Glu Leu Asp Ser Lys Val Arg Asn
CAG AGC ACA GTG ATG TTA GAC AAA CAG AAA GAG CTT GAC AGT AAA GTC AGA AAT

Val Lys Asp Lys Val Met Cys Ile Glu His Glu Ile Lys Ser Leu Glu Asp Leu
GTG AAG GAC AAG GTT ATG TGT ATA GAG CAT GAA ATC AAG AGC CTG GAA GAT TTA

Gln Asp Glu Tyr Asp Phe Lys Cys Lys Thr Leu Gln Asn Arg Glu His Glu Thr
CAA GAT GAA TAT GAC TTC AAA TGC AAA ACC TTG CAG AAC AGA GAA CAC GAG ACC

Asn Gly Val Ala Lys Ser Asp Gln Lys Gln Glu Gln Leu Leu Leu Lys Lys Met
AAT GGT GTG GCA AAG AGT GAT CAG AAA CAA GAA CAG CTG TTA CTC AAG AAG ATG

Tyr Leu Met Leu Asp Asn Lys Arg Lys Glu Val Val His Lys Ile Ile Glu Leu
TAT TTA ATG CTT GAC AAT AAG AGA AAG GAA GTA GTT CAC AAA ATA ATA GAG TTG

Leu Asn Val Thr Glu Leu Thr Gln Asn Ala Leu Ile Asn Asp Glu Leu Val Glu
CTG AAT GTC ACT GAA CTT ACC CAG AAT GCC CTG ATT AAT GAT GAA CTA GTG GAG

Trp Lys Arg Arg Gln Gln Ser Ala Cys Ile Gly Gly Pro Pro Asn Ala Cys Leu
TGG AAG CGG AGA CAG CAG AGC GCC TGT ATT GGG GGG CCG CCC AAT GCT TGC TTG

Asp Gln Leu Gln Asn Trp Phe Thr Ile Val Ala Glu Ser Leu Gln Gln Val Arg
GAT CAG CTG CAG AAC TGG TTC ACT ATA GTT GCG GAG AGT CTG CAG CAA GTT CGG

Gln Gln Leu Lys Lys Leu Glu Glu Leu Glu Gln Lys Tyr Thr Tyr Glu His Asp
CAG CAG CTT AAA AAG TTG GAG GAA TTG GAA CAG AAA TAC ACC TAC GAA CAT GAC

Pro Ile Thr Lys Asn Lys Gln Val Leu Trp Asp Arg Thr Phe Ser Leu Phe Gln
CCT ATC ACA AAA AAC AAA CAA GTG TTA TGG GAC CGC ACC TTC AGT CTT TTC CAG

Figure 3A

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Gln Leu Ile Gln Ser Ser Phe Val Val Glu Arg Gln Pro Cys Met Pro Thr His
 CAG CTC ATT CAG AGC TCG TTT GTG GTG GAA AGA CAG CCC TGC ATG CCA ACG CAC

 Pro Gln Arg Pro Leu Val Leu Lys Thr Gly Val Gln Phe Thr Val Lys Leu Arg
 CCT CAG AGG CCG CTG GTC TTG AAG ACA GGG GTC CAG TTC ACT GTG AAG TTG AGA

 Leu Leu Val Lys Leu Gln Glu Leu Asn Tyr Asn Leu Lys Val Lys Val Leu Phe
 CTG TTG GTG AAA TTG CAA GAG CTG AAT TAT AAT TTG AAA GTC AAA GTC TTA TTT

 Asp Lys Asp Val Asn Glu Arg Asn Thr Val Lys Gly Phe Arg Lys Phe Asn Ile
 GAT AAA GAT GTG AAT GAG AGA AAT ACA GTA AAA GGA TTT AGG AAG TTC AAC ATT

 Leu Gly Thr His Thr Lys Val Met Asn Met Glu Glu Ser Thr Asn Gly Ser Leu
 TTG GGC ACG CAC ACA AAA GTG ATG AAC ATG GAG GAG TCC ACC AAT GGC AGT CTG

 Ala Ala Glu Phe Arg His Leu Gln Leu Lys Glu Gln Lys Asn Ala Gly Thr Arg
 GCG GCT GAA TTT CGG CAC CTG CAA TTG AAA GAA CAG AAA AAT GCT GGC ACC AGA

 Thr Asn Glu Gly Pro Leu Ile Val Thr Glu Glu Leu His Ser Leu Ser Phe Glu
 ACG AAT GAG GGT CCT CTC ATC GTT ACT GAA GAG CTT CAC TCC CTT AGT TTT GAA

 Thr Gln Leu Cys Gln Pro Gly Leu Val Ile Asp Leu Glu Thr Thr Ser Leu Pro
 ACC CAA TTG TGC CAG CCT GGT TTG GTA ATT GAC CTC GAG ACG ACC TCT CTG CCC

 Val Val Val Ile Ser Asn Val Ser Gln Leu Pro Ser Gly Trp Ala Ser Ile Leu
 GTT GTG GTG ATC TCC AAC GTC AGC CAG CTC CCG AGC GGT TGG GCC TCC ATC CTT

 Trp Tyr Asn Met Leu Val Ala Glu Pro Arg Asn Leu Ser Phe Phe Leu Thr Pro
 TGG TAC AAC ATG CTG GTG GCG GAA CCC AGG AAT CTG TCC TTC TTC CTG ACT CCA

 Pro Cys Ala Arg Trp Ala Gln Leu Ser Glu Val Leu Ser Trp Gln Phe Ser Ser
 CCA TGT GCA CGA TGG GCT CAG CTT TCA GAA GTG CTG AGT TGG CAG TTT TCT TCT

 Val Thr Lys Arg Gly Leu Asn Val Asp Gln Leu Asn Met Leu Gly Glu Lys Leu
 GTC ACC AAA AGA GGT CTC AAT GTG GAC CAG CTG AAC ATG TTG GGA GAG AAG CTT

 Leu Gly Pro Asn Ala Ser Pro Asp Gly Leu Ile Pro Trp Thr Arg Phe Cys Lys
 CTT GGT CCT AAC GCC AGC CCC GAT GGT CTC ATT CCG TGG ACG AGG TTT TGT AAG

 Glu Asn Ile Asn Asp Lys Asn Phe Pro Phe Trp Leu Trp Ile Glu Ser Ile Leu
 GAA AAT ATA AAT GAT AAA AAT TTT CCC TTC TGG CTT TGG ATT GAA AGC ATC CTA

 Glu Leu Ile Lys Lys His Leu Leu Pro Leu Trp Asn Asp Gly Cys Ile Met Gly
 GAA CTC ATT AAA AAA CAC CTG CTC CCT CTC TGG AAT GAT GGG TGC ATC ATG GGC

 Phe Ile Ser Lys Glu Arg Glu Arg Ala Leu Leu Lys Asp Gln Gln Pro Gly Thr
 TTC ATC AGC AAG GAG CGA GAG CGT GCC CTG TTG AAG GAC CAG CAG CCG GGG ACC

 Phe Leu Leu Arg Phe Ser Glu Ser Ser Arg Glu Gly Ala Ile Thr Phe Thr Trp
 TTC CTG CTG CGG TTC AGT GAG AGC TCC CGG GAA GGG GCC ATC ACA TTC ACA TGG

 Val Glu Arg Ser Gln Asn Gly Gly Glu Pro Asp Phe His Ala Val Glu Pro Tyr
 GTG GAG CGG TCC CAG AAC GGA GGC GAA CCT GAC TTC CAT GCG GTT GAA CCC TAC

 Thr Lys Lys Glu Leu Ser Ala Val Thr Phe Pro Asp Ile Ile Arg Asn Tyr Lys
 ACG AAG AAA GAA CTT TCT GCT GTT ACT TTC CCT GAC ATC ATT CGC AAT TAC AAA

 Val Met Ala Ala Glu Asn Ile Pro Glu Asn Pro Leu Lys Tyr Leu Tyr Pro Asn
 GTC ATG GCT GCT GAG AAT ATT CCT GAG AAT CCC CTG AAG TAT CTG TAT CCA AAT

Figure 3B

Ile Asp Lys Asp His Ala Phe Gly Lys Tyr Tyr Ser Arg Pro Lys Glu Ala Pro
ATT GAC AAA GAC CAT GCC TTT GGA AAG TAT TAC TCC AGG CCA AAG GAA GCA CCA

Glu Pro Met Glu Leu Asp Gly Pro Lys Gly Thr Gly Tyr Ile Lys Thr Glu Leu
GAG CCA ATG GAA CTT GAT GGC CCT AAA GGA ACT GGA TAT ATC AAG ACT GAG TTG

Ile Ser Val Ser Glu Val

ATT TCT GTG TCT GAA GTG TAAGTGAACACAGAAGAGTGACATGTTTACAAACCTCAAGCCAGCCT

TGCTCCTGGCTGGGGCCTGTTGAAGATGCTTGTATTTTACTTTTCCATTGTAATTGCTATCGCCATCACAG

CTGAACTTGTTGAGATCCCCGTGTTACTGCCTATCAGCATTTTACTACTTTAAAAAAAAAAAAAAAAAGCCA

AAACCAAATTTGTATTTAAGGTATATAAATTTTCCCAAACTGATACCCTTTGAAAAAGTATAAATAAAA

TGAGCAAAGTTGAA

1990-1991		1991-1992		1992-1993		1993-1994		1994-1995		1995-1996		1996-1997		1997-1998		1998-1999		1999-2000		2000-2001		2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017		2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		2022-2023		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2028-2029		2029-2030		2030-2031		2031-2032		2032-2033		2033-2034		2034-2035		2035-2036		2036-2037		2037-2038		2038-2039		2039-2040		2040-2041		2041-2042		2042-2043		2043-2044		2044-2045		2045-2046		2046-2047		2047-2048		2048-2049		2049-2050		2050-2051		2051-2052		2052-2053		2053-2054		2054-2055		2055-2056		2056-2057		2057-2058		2058-2059		2059-2060		2060-2061		2061-2062		2062-2063		2063-2064		2064-2065		2065-2066		2066-2067		2067-2068		2068-2069		2069-2070		2070-2071		2071-2072		2072-2073		2073-2074		2074-2075		2075-2076		2076-2077		2077-2078		2078-2079		2079-2080		2080-2081		2081-2082		2082-2083		2083-2084		2084-2085		2085-2086		2086-2087		2087-2088		2088-2089		2089-2090		2090-2091		2091-2092		2092-2093		2093-2094		2094-2095		2095-2096		2096-2097		2097-2098		2098-2099		2099-2100		2100-2101		2101-2102		2102-2103		2103-2104		2104-2105		2105-2106		2106-2107		2107-2108		2108-2109		2109-2110		2110-2111		2111-2112		2112-2113		2113-2114		2114-2115		2115-2116		2116-2117		2117-2118		2118-2119		2119-2120		2120-2121		2121-2122		2122-2123		2123-2124		2124-2125		2125-2126		2126-2127		2127-2128		2128-2129		2129-2130		2130-2131		2131-2132		2132-2133		2133-2134		2134-2135		2135-2136		2136-2137		2137-2138		2138-2139		2139-2140		2140-2141		2141-2142		2142-2143		2143-2144		2144-2145		2145-2146		2146-2147		2147-2148		2148-2149		2149-2150		2150-2151		2151-2152		2152-2153		2153-2154		2154-2155		2155-2156		2156-2157		2157-2158		2158-2159		2159-2160		2160-2161		2161-2162		2162-2163		2163-2164		2164-2165		2165-2166		2166-2167		2167-2168		2168-2169		2169-2170		2170-2171		2171-2172		2172-2173		2173-2174		2174-2175		2175-2176		2176-2177		2177-2178		2178-2179		2179-2180		2180-2181		2181-2182		2182-2183		2183-2184		2184-2185		2185-2186		2186-2187		2187-2188		2188-2189		2189-2190		2190-2191		2191-2192		2192-2193		2193-2194		2194-2195		2195-2196		2196-2197		2197-2198		2198-2199		2199-2200		2200-2201		2201-2202		2202-2203		2203-2204		2204-2205		2205-2206		2206-2207		2207-2208		2208-2209		2209-2210		2210-2211		2211-2212		2212-2213		2213-2214		2214-2215		2215-2216		2216-2217	
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Figure 3C

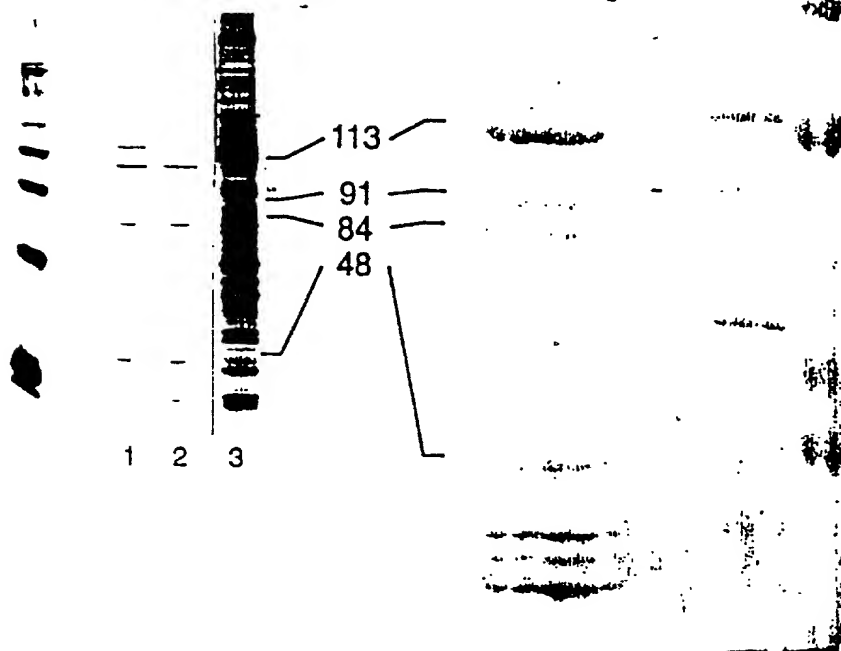


Figure 4

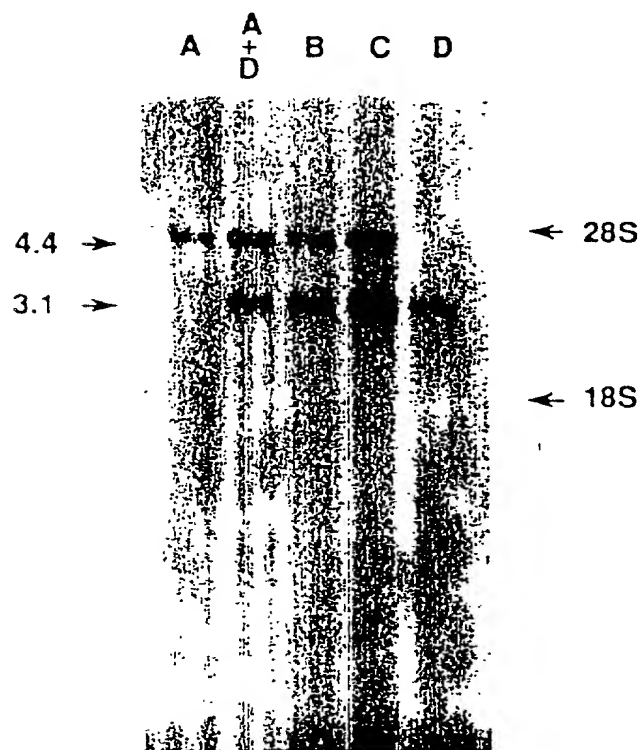
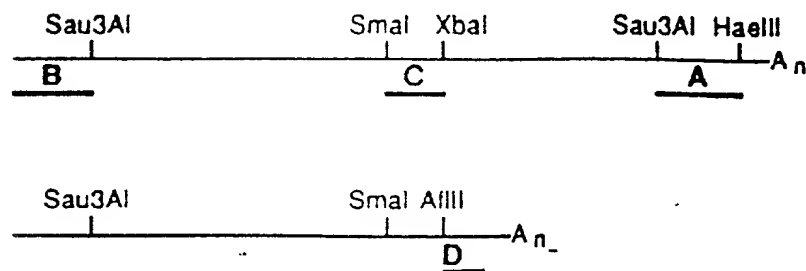


Figure 5

1 MSQWYELQQLDSKFLEQVHQLYDDSPMEIROYLAQWLEKQDWEHAANDV
 51 SFATIRFIIDLLSQDDQYSRFSLENNFLLQIINIRKSKRNLDNFQEDPIQ
 101 MSHIIYSCLKEERKILENAQRFNQAQSGNIQSTVHLDKQKELDSKVRNVK
 151 DKVMCIEHEIKSLEDLQDEYDFKCKTLQNHETNGVAKSDQKQEQLLLK
 201 KHYLMLDNKRKEVVHKKIIELLNVTELTQNALINDELVEWKRQQSACIGG
 251 PPNACLDQLQQVRQQLKKLEELEQKYTYEIDPITKNKQVLWDRFSLFQQ
 301 LIQSSFVVERQPCMPTHPQRPLVLKTGVQFTVKLRLLVVKLQELNYNLKVK
 351 VLFDKDVNERNTVKGFRKFNILGTHKVMMEESTNGSLAAEFRIHLQKE
 401 QKNAGTRTHGGLIVTEELHSLSFETQLCQPGGLVIDLETTSLPVVISNV
 451 SQLPSGWASILWYNMLVAEPRNLSFFLTPPCARWAQLSEVLSWQFSSVTK
 127
 501 RGLNYDOLHMLGEKLLGPNASPDGLIPWTRFCKENINDKNFPFWLWIESI
 119
 551 LELIKKHLLPLWNDGCIMGFISKERERALLKDQQPGTFLLRFSESSREGA
 601 ITFTWVERSQNGGEPDFHAVEPYTKKELSAVTFPDIIRNYKVMAAENIPE
 113a
 651 NPLKYLYPNIDKDHAFGKYYSRPKEAPEPHELDGPKGTGYIKTELISVSE
 113b
 701 VHPSRLQTTDNLPMSPFEEDSVSRIVGSVEFDSMNTV
 ↑
 last amino acid of 84 kd

Figure 6

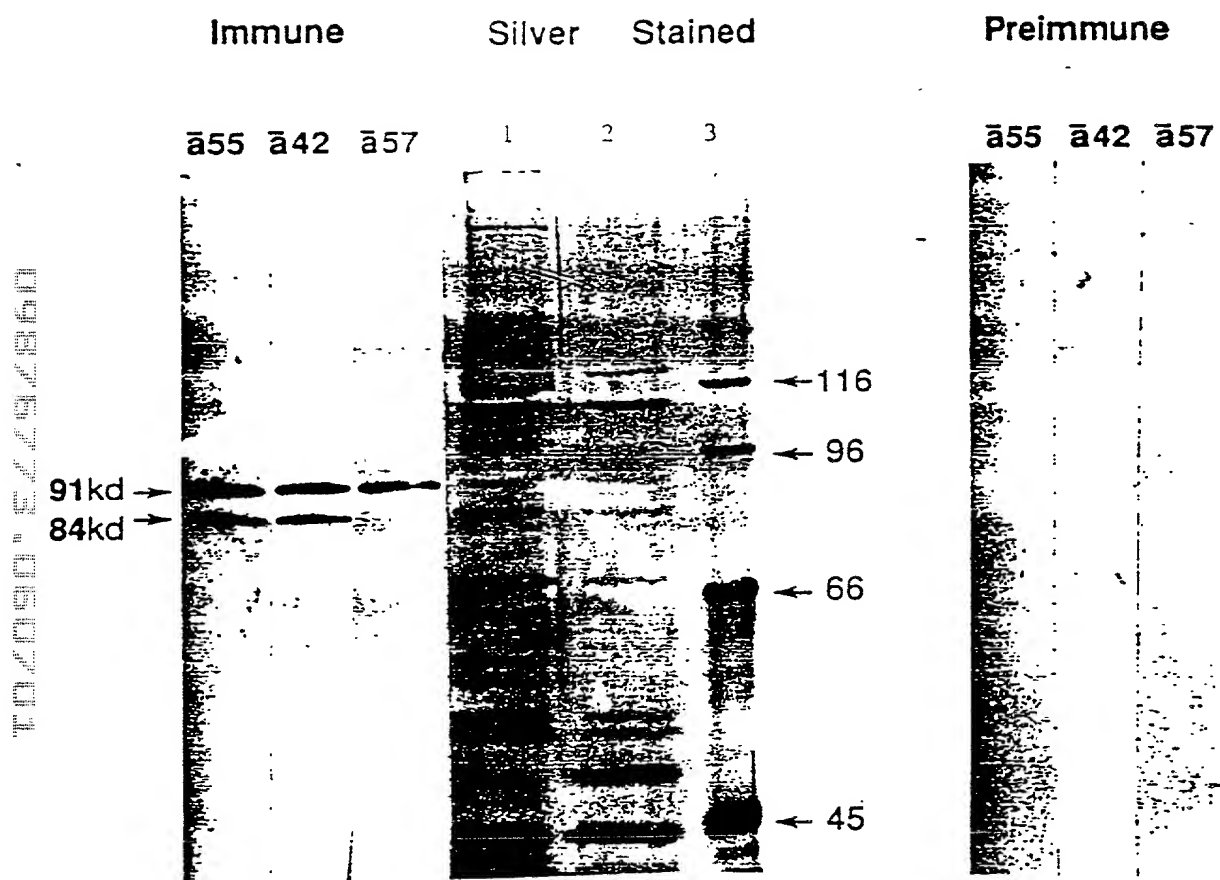


Figure 7A



Figure 7B

3
3
4
4
5
6
6

Figure 8 A

113 kDa MAQWEHLQNLDSPEQDQLHQLYSHSLLPVDIRQYLAVMIEDQNMQZAAAGSDOSKATHLF
91/84 kDa MSQMYELQCLDSKELEQVHQLYDSS-FPMELRQYLAQMLEKQVMEHAN--NOVSFATIRF

61 FHFQQQLNYECGRCSQDPESLLQHNLRKFCRIQF-FSQDPTQLAEMIFNLLLEKRII
57 HDLSQQLDDQYSRFSLE-NNFLLQHNTKSKRNLDQNEQEDRICHSMIIYSCLKEERKII

120 IQAQRRAQLEQGEFVLETPVESQCHIEIRILDRLAHMEKLVKSIISQLKDDQDVFCFRYK-
117 ENAQRFNQAQSGNIQSTVHLQKQKELDSKVRNVKDKVMHCIEHISLEQLQDEYDFRCKT

179 IQAKGKTPS--LDPHQTKCKIQQETLNEQKRRKEVLDASKALLGRITTLIE--LLLPK
177 LONREHETNGVAKSDQKQELLLKKHYLMQNKRRKEVVKHIIELL-NVTELTQNAIINDE

235 LDEWRAQQKACIRAPIDHGLEQLTWNFTAGAKLLFHLRQLLKEKGLSCLVSYQDDHIT
236 LVEWRRQQSACIGGPNACLDQLQ-----QVRQCLKKMLEELQKYTYEHDHIT

295 KGVDLRNAQVTELLQRIILHRAFFVETQPCMPQTPHRRPLILKTGSKFTVATRLLVRLQECN
285 KMKQVLWDRTFSLFQQLIQSSFVVERQPCMPHPTPORPLVLKTGVQFTVKRLLLVKLQELN

355 ESITMEVSIQRNPPQ---LQGRKFNIITSNQTLTPEKQSQGLIWDQGYLTLVEQRSG
345 YNLKVKYLFQKDVNERNTVKGFRKFNIIGTITKVHNMEESTNGSLAAETRHLLQKEQKNA

412 GSGKGSNKGPLGVTEELHIIISFTVKYTYQGLKQELKTDILPVVVISMHNQISIAWASVLW
405 GT--RTNEGFLIVTEELHISLSETQLCQPGIVIDLETTSLPVVVISMVSQIPSGWASILW

472 FNLLSPNLQNOQFFSNPRKAPMSILGPALSHQFSSYVGRGLNSDQLSHLRNKILFGQNCRT
463 YNMLVAEPRLSFFLTPTCDARMAQLSEVLSHQFSSVTKRGLNVQDLNMLGEXILGPNASP

532 EDPILLSWADFTKRESPPGKLPFWTMLQKILELVHDLKDLWNDGRIMGFVSRSQERRLLK
523 DG-LIPWTRCKENINDKNFPFWMIESILELIKKEILLPLWNDGCIMGFIKERERALLK

592 KTHSGTFLLRFSSESS-EGGITCSWVEH-QDDKVLIIYSVQPTKEVLQSLPLTEIIRHYQ
582 DQQPGTFLLRFSSESSREGAIFTWVERSNGGEPDFHAEPTTKKELSAVTFPDIIRNYK

650 LLTEENIPENPLRFLYPRIPRDEAFCCYY-----QEKVNLQERR--KYLKHRRLIMVSHR
642 VHAAENIPENPLKYLYPMIOKQWAFCKYYSRPKEAPEPMELDGPKGTCYIKTELISVSEV

702 QVDELQQPLELKP
702 HPSRLQTTDNLLP

Figure 8B

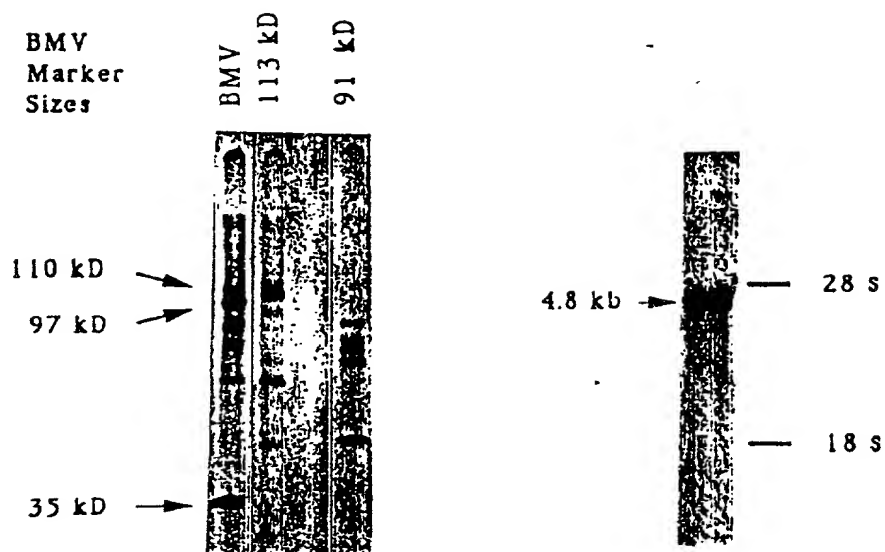


Figure 9

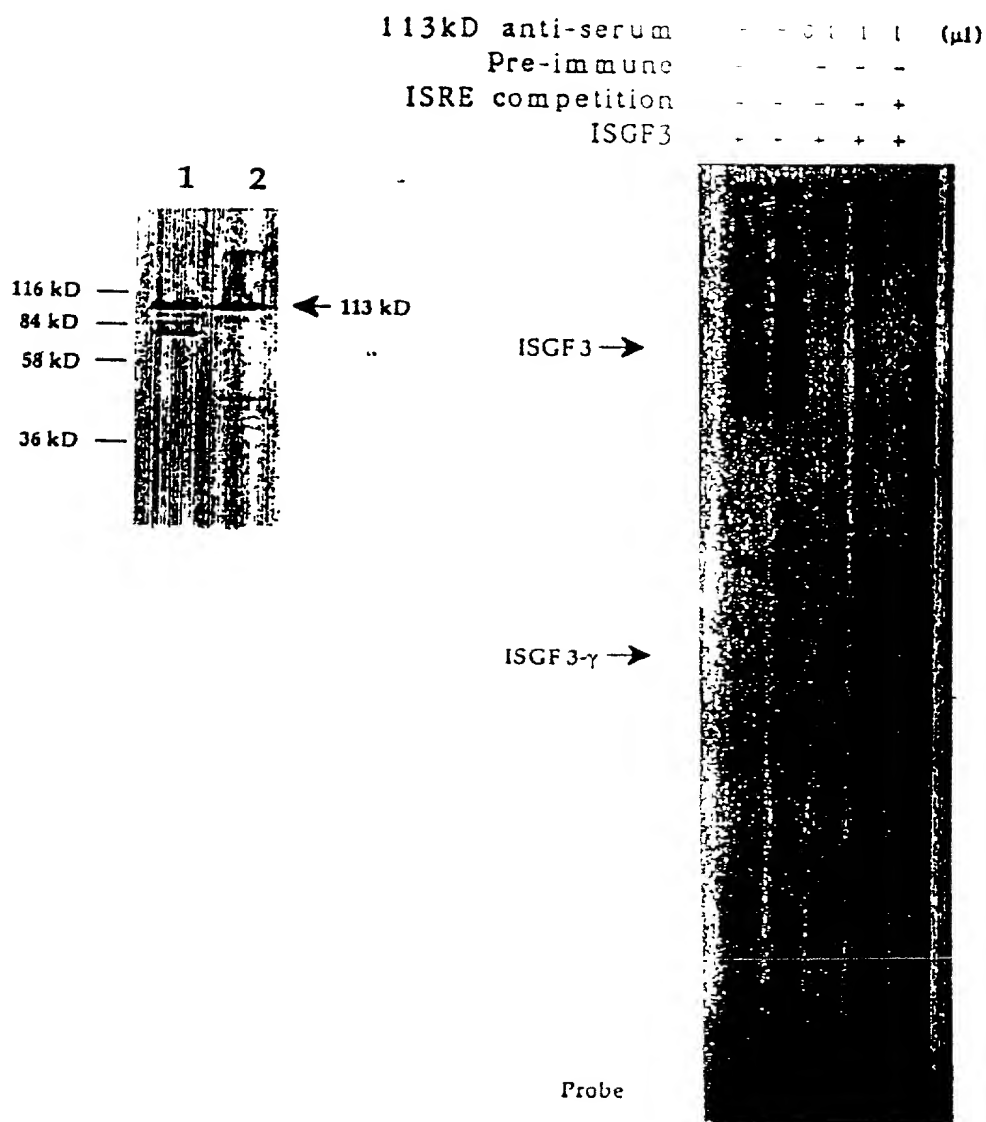


Figure 10

Figure 11

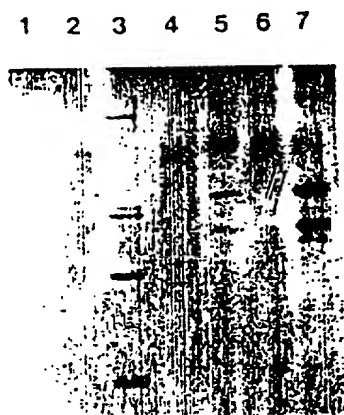


Figure 12

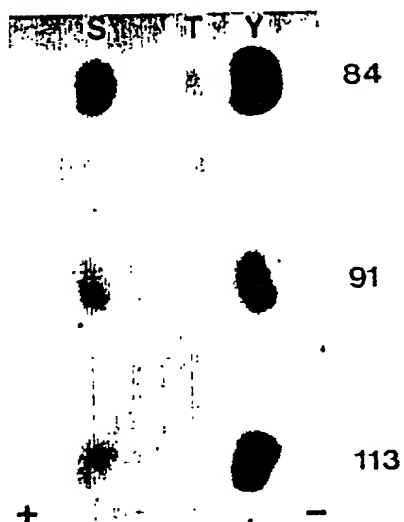


Figure 11, 12

1 MSQWFELQQL DSKFLEQVHQ LYDDSFPMET RQYLAQWLEK QDWEHAAYDV
51 SFATIRFHD LLSQLDDQYSR FSLENNFLLQ HNIRKSKRNL QDNFQEDPVQ
101 MSMIIYNCLK EERKILENAQ RFNQAQEGNI QNTVMDKQK ELDSKVRNVK
151 DQVMCIEQEI KTLLELQDEY DFKCKTSQNR EGEANGVAKS DQKQEQLLLH
201 KMFIMLDNKR KEIIHKIREL LNSIELTQNT LINDELVEWK RRQSSACIGG
251 PPNACLDQLQ TWFTIVAETL QQIRQQLKKL EELEQKFTYE PDPITKNKQV
301 LSDRTFLLFQ QLIQSSFVVE RQPCMPTHPQ RPLVLKTGVQ FTVKSRLLVK
351 LQESNLLTKV KCHFDDKDVNE KNTVKGFRKF NILGTHTKVM NMEESTNGSL
401 AAELRHLQLK EQKNAGNRTN EGPLIVTEEL HSLSFETQLC QPGLVIDLET
451 TSLPVVVISN VSQPSGWAS ILWYNMLVTE PRNLSFFLNP PCAWWSQLSE
501 VLSWQFSSVT KRGLNADQLS MLGEKLLGPN AGPDGLIPWT RFCKENINDK
551 NSEFWPWIDT ILELIKNDLL CLWNDGCIMG FISKEERERL LKDQQPGTFL
601 LRFSESSREG AITFTWVERS QNGGEPDFHA VEPYTKKELS AVTFPDIIRN
651 YKVMAAENIP ENPLKYLYPN IDKDHAFGKY YSRPKEAPEP MELDDPKRTG
701 YIKTELISVS EVHPSRLQTT DNLLPMSPEE FDEMSRIVGP EFDSMMSTV

Figure 13A

1 caggatgtca cagtgggttcg agcttcagca gctggactcc aagttcctgg
 51 agcaggtcca ccagctgtac gatgacagtt tccccatgga aatcagacag
 101 tacctggccc agtggctgga aaagcaagac tgggagcacg ctgcctatga
 151 tgtctcgttt gcgaccatcc gcttccatga cctcctctca cagctggacg
 201 accagtacag ccgcttttct ctggagaata atttcttggt gcagcacaac
 251 atacggaaaa gcaagcgtaa tctccaggat aacttccaag aagatcccg
 301 acagatgtcc atgatcatct acaactgtct gaaggaagaa aggaagattt
 351 tggaaaatgc ccaaagattt aatcaggccc aggagggaat tattcagaac
 401 actgtgatgt tagataaaca gaaggagctg gacagtaaag tcagaaatgt
 451 gaaggatcaa gtcattgtga tagagcagga aatcaagacc ctagaagaat
 501 tacaagatga atatgacttt aaatgcaaaa cctctcagaa cagagaaggt
 551 gaagccaatg gtgtggcgaa gagcgaccaa aaacaggaac agctgctgct
 601 ccacaagatg tttttaatgc ttgacaataa gagaaaggag ataattcaca
 651 aaatcagaga gttgtgtaat tccatcgagc tcaactcagaa cactctgatt
 701 aatgacgagc tcgtggagtg gaagcgaagg cagcagagcg cctgcacg
 751 gggaccgccc aacgcctgcc tggatcagct gcaaacgtgg ttcaccattg
 801 ttgcagagac cctgcagcag atccgtcagc agcttaaaaa gctggaggag
 851 ttggaacaga aattcaccta tgagcccgac cctattacaa aaaacaagca
 901 ggtgttgtca gatcgaacct tcctcctctt ccagcagctc attcagagct
 951 ccttcgtggt agaacgacag ccgtgcagtc ccactcaccg gcagaggccc
 1001 ctggtcttga agactggggt acagtteact gtcaagtcga gactgttggt
 1051 gaaattgcaa gagtcgaatc tattaacgaa agtgaaatgt cactttgaca
 1101 aagatgtgaa cgagaaaaac acagttaaag gatttcggaa gttcaacatc
 1151 ttgggtacgc acacaaaagt gatgaacatg gaagaatcca ccaacggaag
 1201 tctggcagct gagctccgac acctgcaact gaaggaacag aaaaacgctg
 1251 ggaacagaac taatgagggg cctctcattg tcaccgaaga acttcactct
 1301 cttagctttg aaaccagtt gtgccagcca ggcttggtga ttgacctgga
 1351 gaccacctct cttcctgtcg tggbgatctc caacgtcagc cagctcccca

Figure 13B

1401 gtggctgggc gtctatcctg tggtaacaaca tgctgggtgac agagcccagg
1451 aatctctcct tcttctgaa cccccctgc gcgtgggtgt cccagctctc
1501 agagggtgtg agttggcagt ttcatcagt caccaagaga ggtctgaacg
1551 cagaccagct gagcatgctg ggagagaagc tgctgggccc taatgctggc
1601 cctgatggtc ttattccatg gacaagggtt tgtaaggaaa atattaatga
1651 taaaaatttc tcctcttggc cttggattga caccatccta gagctcatta
1701 agaacgacct gctgtgcctc tggaatgatg ggtgcattat gggcttcato
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1801 cctgcttaga ttcagtgaga gctcccggga agggggccatc acattcacat
1851 ggggtggaac gtcccagaac ggagggtgaac ctgacttcca tgccgtggag
1901 ccctacacga aaaaagaact ttcagctgtt actttcccag atattattcg
1951 caactacaaa gtcatggctg ccgagaacat accagagaat cccctgaagt
2001 atctgtacct caatattgac aaagaccacg cctttgggaa gtattattcc
2051 agaccaaaag aagcaccaga accgatggag cttgacgacc ctaagcgaac
2101 tggatacatc aagactgagt tgatttctgt gtctgaagtc cacccttcta
2151 gacttcagac cacagacaac ctgcttccca tgtctccaga ggagtttgat
2201 gagatgtccc ggatagtggg ccccgaattt gacagtatga tgagcacagt
2251 ataaacacga atttctctct ggcgaca

Figure 13C

1 MSQWNQVQQL EIKFLEQVDQ FYDDNFPMEI RHLLAQWIET QDWEVASNNE
51 TMTATILLQNL LIQLDEQLGR VSKEKNLLLI HNLKRIRKVL QGKFHGNPMH
101 VAVVISNCLR EERRILAAAN MPIQGPLEKS LQSSSVSERQ RNVEHKVSAI
151 KNSVQMTEQD TKYLEDLQDE FDYRYKTIQT MDQGDKNSIL VNQEVLTLLQ
201 EMLNSLDFKR KEALSKMTQI VNETDLLMNS MLEELQDWK KRHRIACIGG
251 PLHNGLDQLQ NCFTLLAESL FQLRQQLEKL QEQSTKMTYE GDPIPAQRAH
301 LLERATFLIY NLFKNSFVVE RHACMPHPQ RPMVLKTLIQ FTVKLRLLIK
351 LPELNYQVKV KASIDKNVST LSNRRFVLCG THVKAMSSEE SSNGSLVEL
401 DIATQGDEVQ YWSKGNEGCH MVTEELHSIT FETQICLYGL TINLETSSLP
451 VVMISNVSQ L PNAWASIIWY NVSTNDSQNL VFFNNPPSVT LGQLLEVMSW
501 QFSSYVGRGL NSEQNLMLAE KLTVQSNYND GHLTWAKFCK EHLPGKTFTF
551 WTWLEAILDL IKKHILPLWI DGYIMGFVSK EKERLLLKDK MPGTFLLRFS
601 ESHLGGITFT WVDQSENGEV RFHSVEPYNK GRLSALAFAD ILRDYKVIMA
651 ENIPENPLKY LYPDIPKDKA FGKHYSSQPC EVSRPTERGD KGYVPSVFIP
701 ISTIRSDSTE PQSPSOLLPM SPSAYAVLRE NLSPTTIETA MNSPYSAE

Figure 14A

1 tgccactacc tggacggaga gagagagagc agcatgtctc agtggaatca
51 agtccaacaa ttagaaatca agtttttggg gcaagtagat cagttctatg
101 atgacaactt tcctatggaa atccggcatc tgctagctca gtggattgag
151 actcaagact ggggaagtagc ttctaacaat gaaactatgg caacaattct
201 gcttcaaaac ttactaafac aattggatga acagttgggg cgggtttcca
251 aagaaaaaaa tctgctattg attcacaatc taaagagaat tagaaaagtt
301 cttcagggca agtttcatgg aaatccaatg catgtagctg tggtaatctc
351 aaattgctta agggaagaga ggagaatatt ggctgcagcc aacatgccta
401 tccagggacc tctggagaaa tccttacaga gttcttcagt ttctgaaaga
451 caaaggaatg tggaacacaa agtgtctgcc attaaaaaca gtgtgcagat
501 gacagaacaa gataccaaat acttagaaga cctgcaagat gagtttgact
551 acaggtataa aacaattcag acaatggatc aggttgacaa aaacagtatc
601 ctggtgaacc aggaagtttt gacactgctg caagaaatgc ttaatagtct
651 ggacttcaag agaaaggaag cactcagtaa gatgacgcag atagtgaacg
701 agacagacct gctcatgaac agcatgcttc tagaagagct gcaggactgg
751 aaaaagcggc acaggattgc ctgcattggg ggcccgtcc acaatgggct
801 ggaccagctt cagaactgct ttaccctact ggcagagagt cttttccaac
851 tcagacagca actggagaaa ctacaggagc aatctactaa aatgacctat

Figure 14B

901 gaaggggatc ccatccctgc tcaaagagca cacctcctgg aaagagctac
951 cttcctgata tacaaccttt tcaagaactc atttgtggtc gagcgacacg
1001 catgcatgcc aacgcaccct cagaggccga tggacttaa aaccctcatt
1051 cagttcactg taaaactgag attactaata aaattgccgg aactaaacta
1101 tcaggtgaaa gttaaaggcg ccattgacaa gaatgtttca actctaagca
1151 atagaagatt tgtgctttgt ggaactcacg tcaaagctat gtccagtga
1201 gaatcttcca atgggagcct ctcagtggag ttagacattg caaccaagg
1251 agatgaagtg cagtactgga gttaaaggaaa cgagggctgc cacatggtga
1301 cagaggagtt gcattccata acctttgaga ccagatctg cctctatggc
1351 ctcaccatta acctagagac cagctcatta cctgtcgtga tgatttctaa
1401 tgtcagccaa ctacctaatg catgggcata catcatttgg tacaatgtat
1451 caactaacga ctcccagaac ttggttttct ttaataaccc tccatctgtc
1501 actttgggcc aactcctgga agtgatgagc tggcaatttt catcctatgt
1551 cggctgtggc cttaattcag agcagctcaa catgctggca gagaagctca
1601 cagttcagtc taactacaat gatggtcacc tcacctgggc caagttctgc
1651 aaggaacatt tgccctggca aacatttacc ttctggactt ggcttgaagc
1701 aatattggac ctaattaaaa aacatattct tcccctctgg attgatgggt
1751 acatcatggg atttgttagt aaagagaagg aacggcttct gctcaaagat
1801 aaaatgcctg ggacattttt gttaagattc agtgagagcc atcttgagg

Figure 14C

1851 gataaccttc acctgggtgg accaatctga aaatggagaa gtgagattcc
1901 actctgtaga accctacaac aaagggagac tgtcggtctt ggcttctgct
1951 gacatcctgc gagactacaa ggttatcatg gctgaaaaca tccctgaaaa
2001 ccctctgaag tacctctacc ctgacattcc caaagacaaa gcctttggca
2051 aacactacag ctcccagccg tgcgaagtct caagaccaac cgaacgggga
2101 gacaagggtt acgtcccctc tgtttttata cccatttcaa caatccgaag
2151 cgattccacg gagccacaat ctcttcaga ccttctcccc atgtctccaa
2201 gtgcatatgc tgtgctgaga gaaaacctga gcccaacgac aattgaaact
2251 gcaatgaatt ccccatattc tgctgaatga cggtgcaaac ggacacttta
2301 aagaaggaag cagatgaaac tggagagtgt tctttaccat agatcacaat
2351 ttattttctc ggctttgtaa atacc

Figure 14D

T02090"22292860

1 MAQWNQLQQL DTRYLKQLHQ LYSDTFPMEL RQFLAPWIES QDWAYAASKE
51 SHATLVFHNH LGEIDQQYSR FLQESNVLYQ HNLRRIKQFL QSRYLEKPMH
101 IARIVARCLW EESRLLQTAA TAAQGGQAN HPTAAVVTEK QQMLEQHLQD
151 VRKRVQOLEQ KMKVVENLQD DFDNYKTLK SQGDMQDLNG NNQSVTRQKM
201 QQLEQMLTAL DOMRRSIVSE LAGLLSAMEY VQKTLTDEEL ADWKRRPEIA
251 CIGGPPNICL DRLENWITSL AESQLQTRQQ IKKLEELQOK VSYKGDPIVQ
301 HRPMLEERIV ELFRNLKMSA FVVERQPCMP MHPDRPLVIK TGVQFTTKVR
351 LLVKFPELNY QLKIKVCIDK DSGDVAALRG SRKFNILGTN TKVMNMEESN
401 NGSLSAEFKH LTLREQRCGN GGRANCASL IVTEELHLIT FETEVYHQGL
451 KIDLETHSLP VVVISNICQM PNAWASILWY NMLTNNPKNV NFFTCKPIGT
501 WDQVAEVLWS QFSSTTKRGL SIEQLTTLAE KLLGPGVNYS GCQITWAKFC
551 KENMAGKGF5 FWVWLDNIID LVKKYILALW NEGYIMGFIS KERERAILST
601 KPPGTFLLR5 SESSKEGGVT FTWVEKDISG KTQIQSVEPY TKQQLNNMSF
651 AEIIMGYKIM DATNILVSPL VYLYPDIPKE EAFGKYCRPE SQEHPEADPG
701 SAAPYLKTKF ICVTPTTCSN TIDLPMSPRT LDSLMQFGNN GEGAEP5AGG
751 QFESLTFDMD LTSECATSPM

Figure 15A

1 gccgcgacca gccaggccgg ccagtcgggc tcagcccga gacagtcgag
51 acccctgact gcagcaggat ggctcagtgg aaccagctgc agcagctgga
101 cacacgttac ctgaagcagc tgcaccagct gtacagcgac acgttcccca
151 tggagctgcg gcagttcctg gcaccttga ttgagagtca agactgggca
201 tatgcagcca gcaaagagtc acatgccacg ttggtgtttc ataattcttt
251 ggggtgaaatt gaccagcaat atagccgatt cctgcaagag tccaatgtcc
301 tctatcagca caaccttcga agaataagc agtttctgca gagcaggtat
351 cttgagaagc caatggaaat tgcccggatc gtggcccgat gcctgtggga
401 agagtctcgc ctctccaga cggcagccac ggcagcccag caagggggcc
451 aggccaacca cccaacagcc gccgtagtga cagaagaagca gcagatgttg
501 gagcagcatc ttcaggatgt ccggaagcga gtgcaggatc tagaacagaa
551 aatgaagggtg gtggagaacc tccaggacga ctttgatttc aactacaaaa
601 ccctcaagag ccaaggagac atgcaggatc tgaatggaaa caaccagtct
651 gtgaccagac agaagatgca gcagctggaa cagatgctca cagccctgga
701 ccagatgcgg agaagcattg tgagtgagct ggcggggctc ttgtcagcaa
751 tggagtacgt gcagaagaca ctgactgatg aagagctggc tgactggaag
801 aggcggccag agatcgctg catcgaggc cctcccaaca tctgcctgga
851 ccgtctgga aactggataa cttcattagc agaattctca cttcagaccc

Figure 15B

901 gccacaacaaat taagaaactg gaggagctgc agcagaaaagt gtcctacaag
951 ggcgacccta tcgtgcagca ccggcccatg ctggaggaga ggatcgtgga
1001 gctgttcaga aacttaatga agagtgcctt cgtggtggag cggcagccct
1051 gcatgcccat gcacccggac cggcccttag tcatcaagac tgggtgtccag
1101 tttaccacga aagtcaggtt gctggtcaaa tttcctgagt tgaattatca
1151 gcttaaaatt aaagtgtgca ttgataaaga ctctggggat gttgctgccc
1201 tcagaggggtc tcggaaattt aacattctgg gcacgaacac aaaagtgatg
1251 aacatggagg agtctaacaa cggcagcctg tctgcagagt tcaagcacct
1301 gacccttagg gagcagagat gtgggaatgg aggccgtgcc aattgtgatg
1351 cctccttgat cgtgactgag gagctgcacc tgatcacctt cgagactgag
1401 gtgtaccacc aaggcctcaa gattgaccta gagaccact ccttgccagt
1451 tgtggtgatc tccaaacatct gtcagatgcc aaatgcttgg gcatcaatcc
1501 tgtgtgataa catgctgacc aataacccca agaacgtgaa cttcttcact
1551 aagccgccaa ttggaacctg ggaccaagtg gccgaggtgc tcagctggca
1601 gttctcgtcc accaccaagc gagggtgag catcgagcag ctgacaacgc
1651 tggctgagaa gctcctaggg cctggtgtga actactcagg gtgtcagatc
1701 acatgggcta aattctgcaa agaaaacatg gctggcaagg gcttctcctt
1751 ctgggtcttg ctagacaata tcatcgacct tgtgaaaaag tatatcttgg
1801 ccctttggaa tgaagggtac atcatgggtt tcatcagcaa ggagcgggag

Figure 15C

1851 cgggccatcc taagcacaaa gcccccgggc accttcctac tgcgcttcag
1901 cgagagcagc aaagaaggag gggtcacttt cacttgggtg gaaaaggaca
1951 tcagtggcaa gaccagatc cagtctgtag agccatacac caagcagcag
2001 ctgaacaaca tgtcatttgc tgaaatcatc atgggctata agatcatgga
2051 tgcgaccaac atcctgggtg ctccacttgt ctacctctac cccgacattc
2101 ccaaggagga ggcatttgga aagtactgta ggcccgagag ccaggagcac
2151 cccgaagccg acccaggtag tgctgccccg tacctgaaga ccaagttcat
2201 ctgtgtgaca ccaacgacct gcagcaatac cattgacctg ccgatgtccc
2251 cccgcacttt agattcattg atgcagtttg gaaataacgg tgaagggtgct
2301 gagccctcag caggagggca gtttgagtgc ctacgcttg acatggatct
2351 gacctcggag tgtgctacct ccccatgtg aggagctgaa accagaagct
2401 gcagagacgt gacttgagac acctgccccg tgctccacc ctaagcagcc
2451 gaaccccata tcgtctgaaa ctccctaactt tgtgggtcca gatttttttt
2501 ttttaatttc tacttctgct atctttgggc aatctgggca ctttttaaaa
2551 gagagaaatg agtgagtgtg ggtgataaac tgttatgtaa agaggagaga
2601 cctctgagtc tggggatggg gctgagagca gaagggaggc aaagggaac
2651 acctcctgtc ctgcccgcct gccctccttt ttcagcagct cgggggttgg
2701 ttgttagaca agtgccctct ggtgcccatt gctacctgtt gcccactct
2751 gtgagctgat acccattct gggaactcct ggctctgcac tttcaacctt

Figure 15D

2801 gctaatatcc acatagaagc taggactaag cccaggaggt tcctctttaa

2851 attaaaaaaaa aaaaaaaaaa

09876773-060701
T07090"E797360

Figure 15E

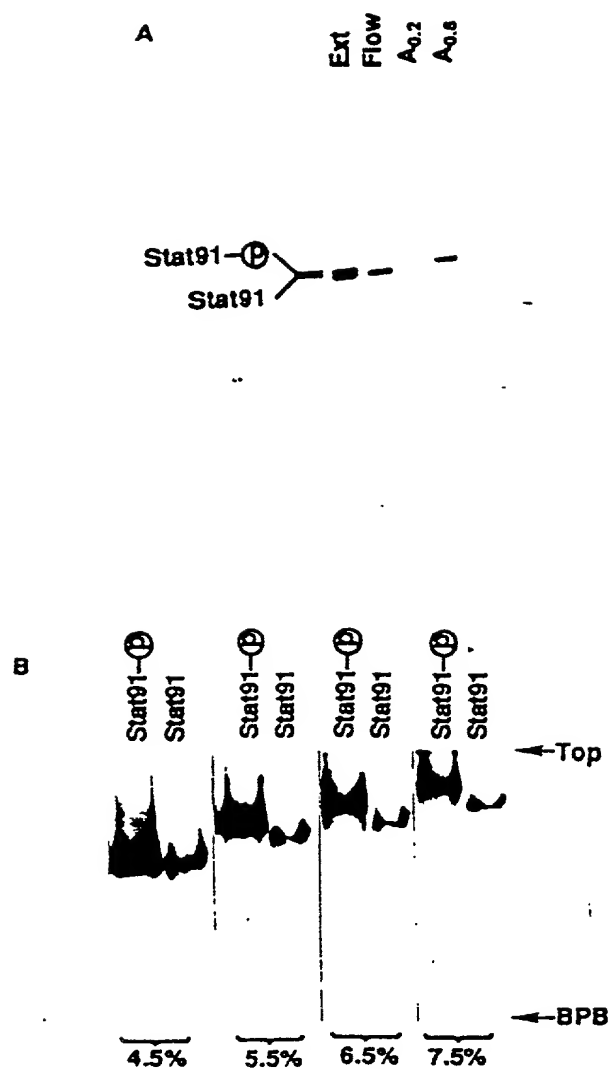


Figure 16A, B

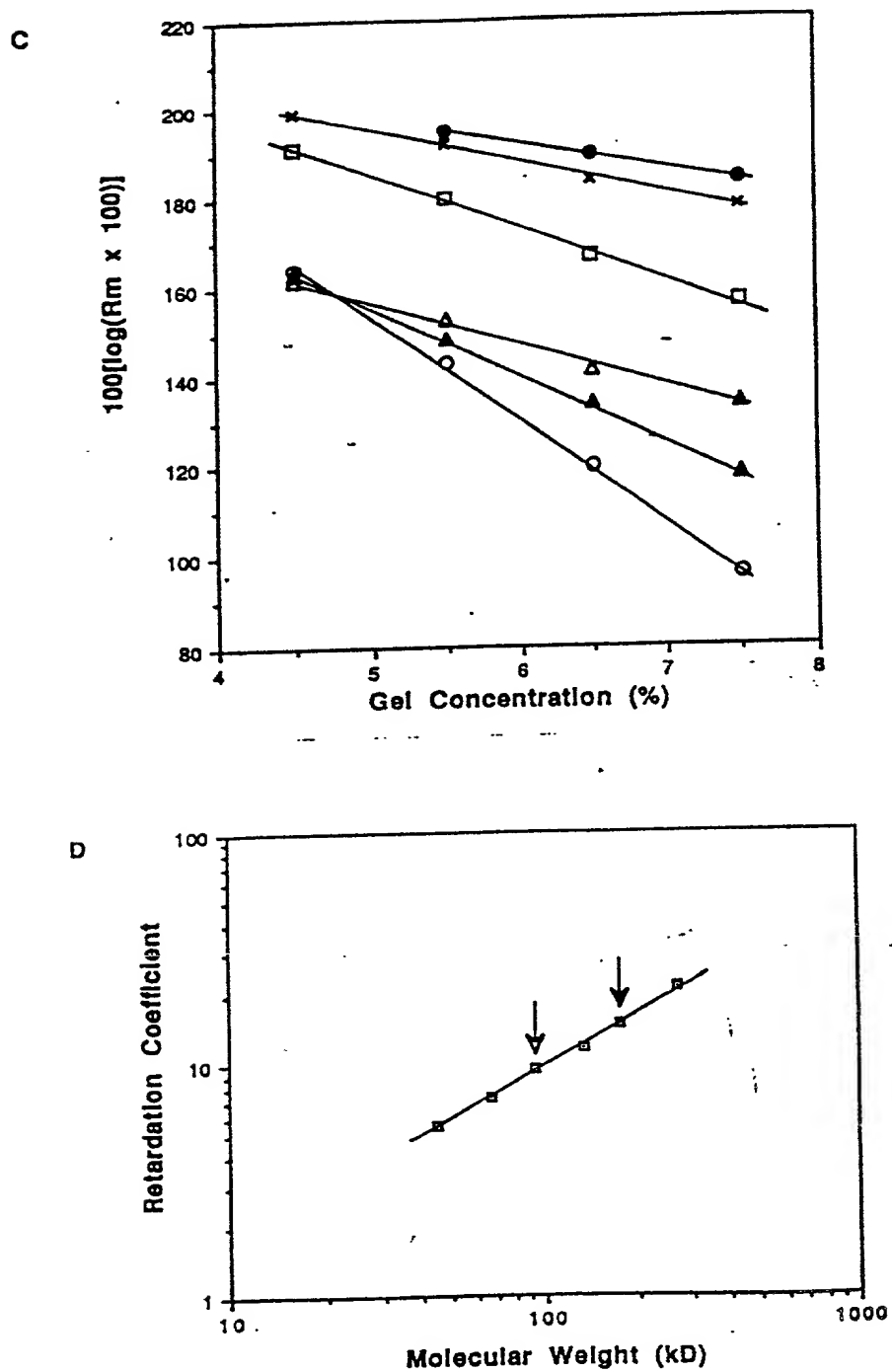


Figure 16C,D

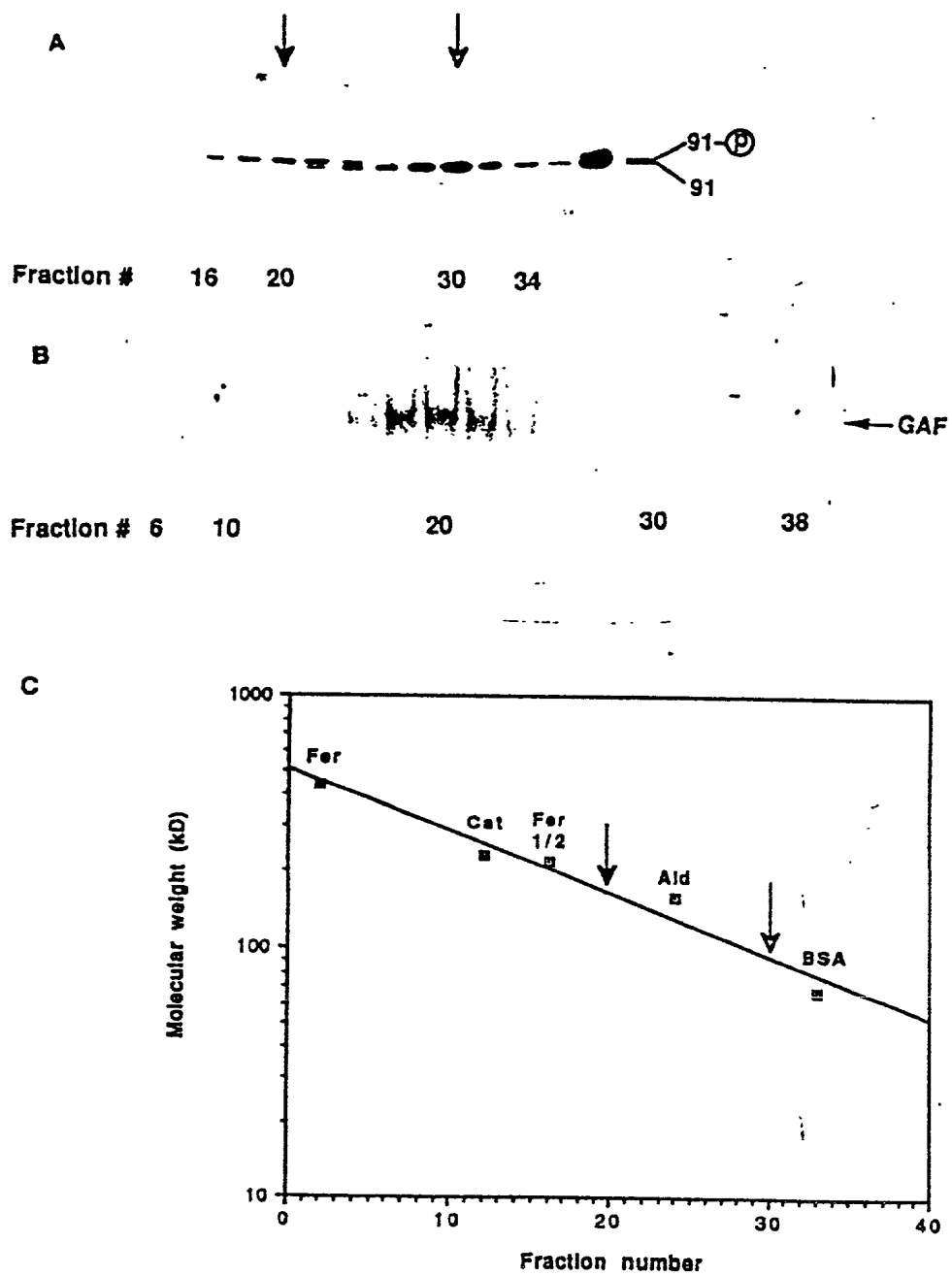


Figure 17

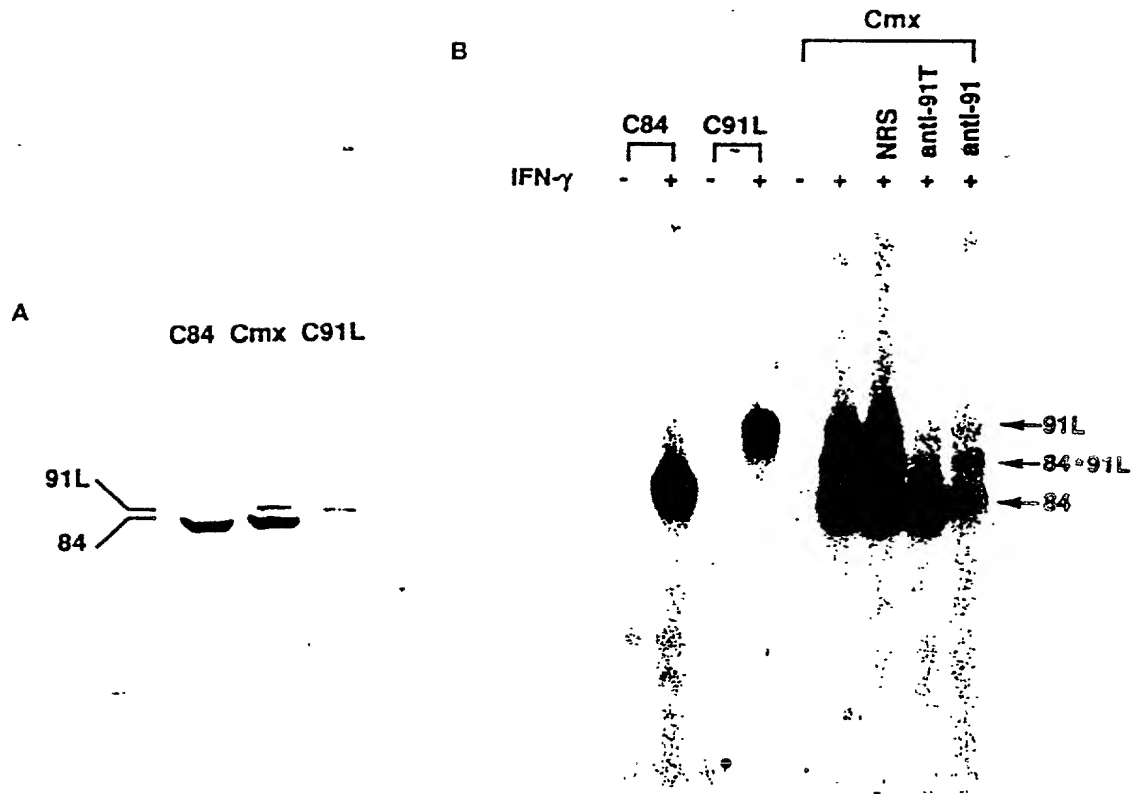


Figure 18

Figure 19

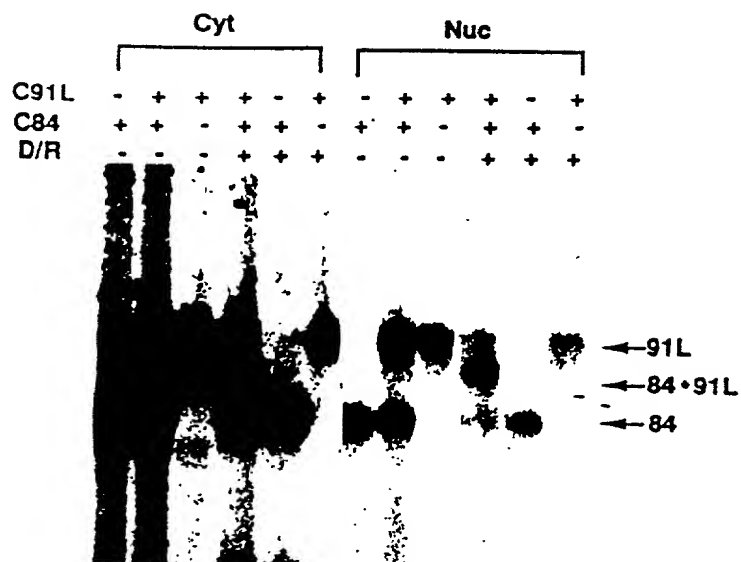


Figure 20

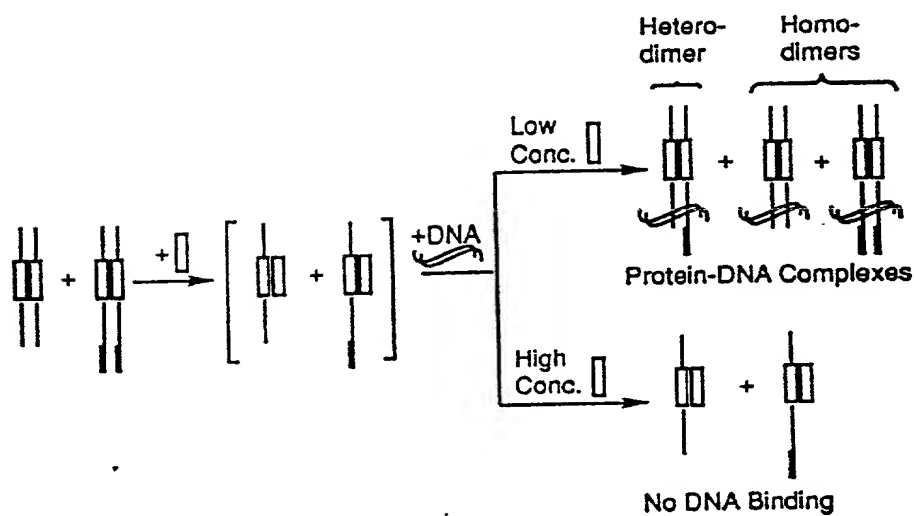


Figure 19, 20

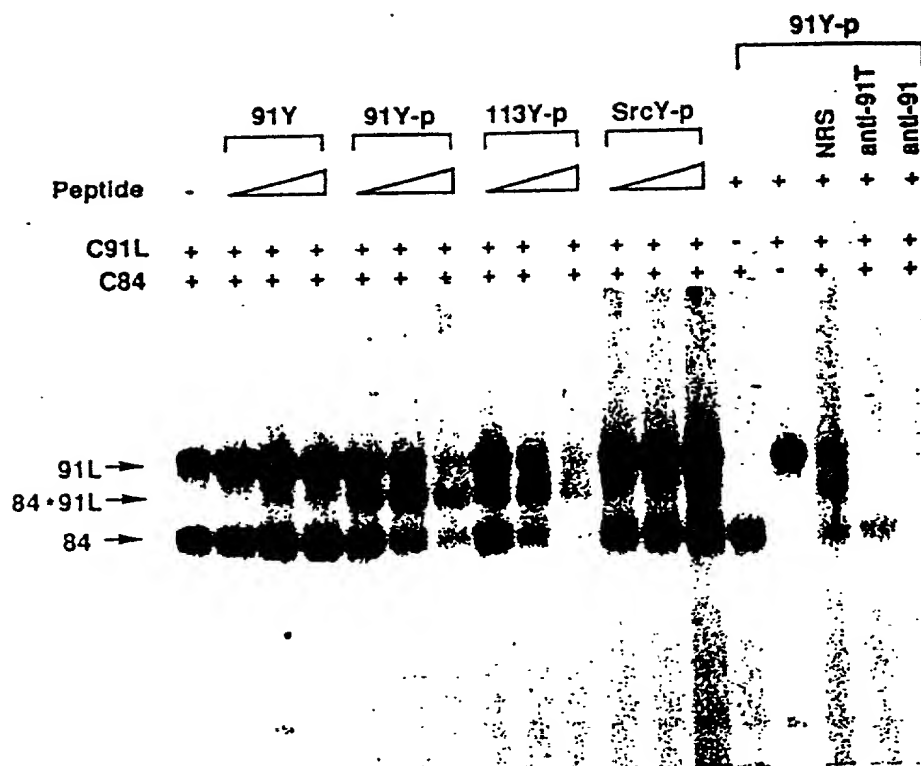


Figure 21

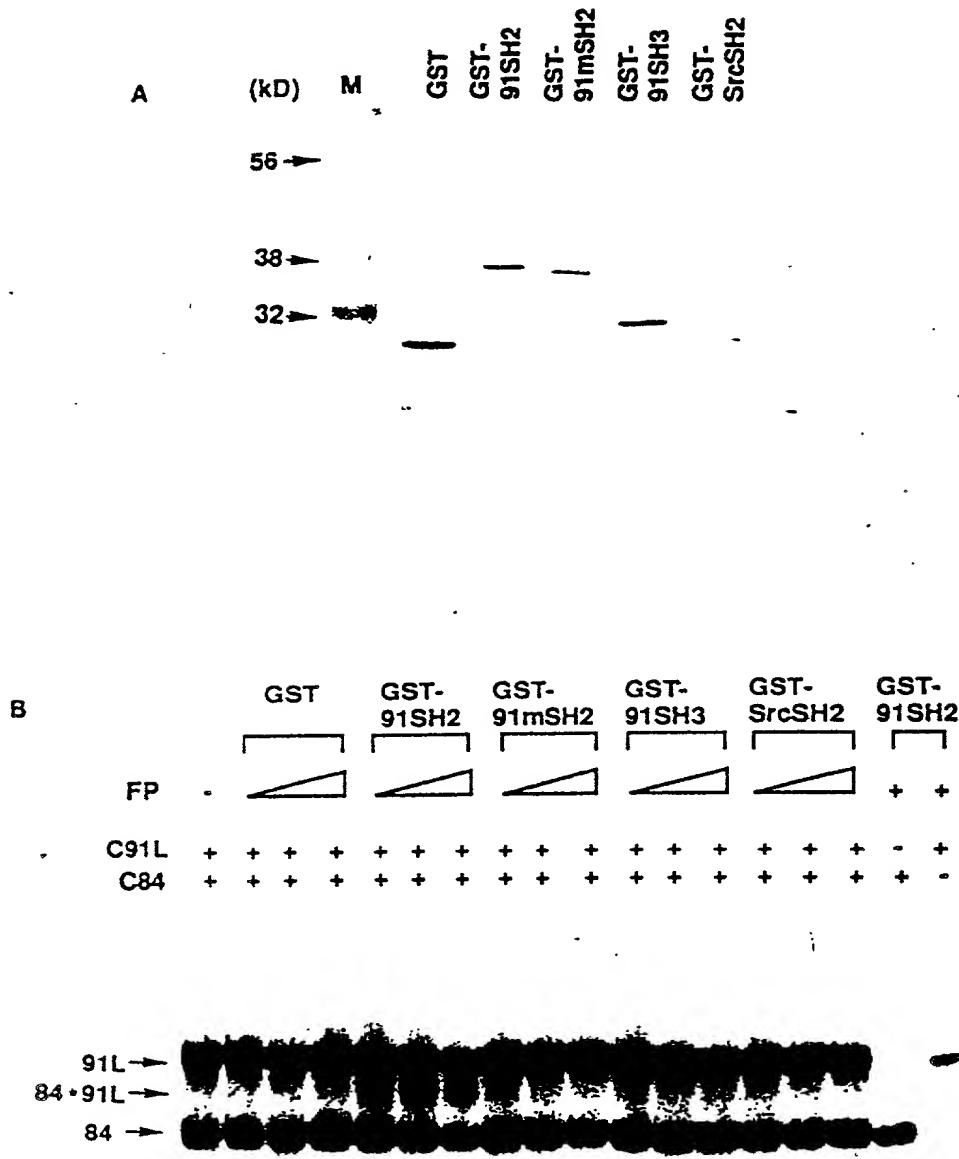


Figure 22

		$\beta A1$		$\alpha A2$		$\beta B5$	
stat91	(569)	LLPL	WND	GRCIMGFI	SKENERALLK	DQQP	G TFLLRFS
src	(145)	AEE	WYF	GKI	TRRESERLLL	NPENPRG	TFLVRES
lck	(127)		WFF	KNL	SRKDAERQLL	APGNTHG	SFLIRES
abl	(141)	EXHS	WYH	GPV	SRMAAEYLLS	SGIN	G SFLVRES
p85 α N	(330)	QDAE	WYW	GDI	SREEVNEKLR	DTAD	G TFLVRDA
							STKMHG
							DYTLTLAK

SCR'S		XXX		XXXXXXXXXX		XXXXXX	XXX	XXXXXX
	[--]	[--]	[--]	[--]	[--]	[--]	[--]	[--]
Name	NA	βA	AA	αA	AB	βB	BC	βC

				$\beta D6$	
stat91	(620)	S	Q N	GGEPDFHAVEPYTKKELSAVTFP	IIRNYKV
					MAA ENIPEN PL
					(664)
src	(189)	F	FD	NAK	GL
lck	(169)	D	FD	QNQ	GE
abl	(185)	E	E		G
p85 α N	(375)			GG	
					NVGHYKI
					RKLD S
					G
					(210)
					VVGHYKI
					RNL DN
					G
					(189)
					RVGHYKI
					NTA SD
					G
					(200)
					NNKLIRI
					FHR D
					G
					(388)

SCR'S				XXXXXXXX X		X
	[--]	[--]	[--]	[--]	[--]	[--]
Name			CD	βD	$\beta D'$	DE

				$\alpha B9$	
stat91	(665)	KYLY	P	NID	K
				KDHAFGKYYSRP	PK EA PEP M
					ELD GPKGTGYIKT
					(704)
src	(211)	GFYI	TSR	TQF	S
				SLQQLVAYYSKH	AD GL CH
					RLT NVC PTS
					(248)
lck	(190)	GFYI	SPR	ITF	P
				GLHDLVRHYTNA	SD GL CT
					RLS RPC QTQ
					(227)
abl	(201)	KLYV	SSE	SRF	N
				TLAELVHHHSTV	AD GL IT
					TLH YPA PKR
					(238)
p85 α N	(389)	KYGF	SDP	LTF	N
				SVVELINHYRHE	S LA QYN PKLDV KL
					LYP
					(427)

SCR'S		XXX		XXXXXXXXXX		
	[--]	[--]	[--]	[--]	[--]	[--]
Name		βE	EF	βF	αB	BG

Figure 23